TRS-80®

Model 100 Portable Computer

BAR CODE DRIVERS

TERMS AND CONDITIONS OF SALE AND LICENSE OF RADIO SHACK COMPUTER EQUIPMENT AND SOFTWARE PURCHASED FROM A RADIO SHACK COMPANY-OWNED COMPUTER CENTER, RETAIL STORE OR FROM A RADIO SHACK FRANCHISEE OR DEALER AT ITS AUTHORIZED LOCATION

LIMITED WARRANTY

I. CUSTOMER OBLIGATIONS

A. CUSTOMER assumes full responsibility that this Radio Shack computer hardware purchased (the "Equipment"), and any copies of Radio Shack software included with the Equipment or licensed separately (the "Software") meets the specifications, capacity, capabilities, versatility, and other requirements of CUSTOMER.

B. CUSTOMER assumes full responsibility for the condition and effectiveness of the operating environment in which the Equipment and Software are to function, and for its installation.

II. RADIO SHACK LIMITED WARRANTIES AND CONDITIONS OF SALE

A. For a period of ninety (90) calendar days from the date of the Radio Shack sales document received upon purchase of the Equipment, RADIO SHACK warrants to the original CUSTOMER that the Equipment and the medium upon which the Software is stored is free from manufacturing defects. THIS WARRANTY IS ONLY APPLICABLE TO PURCHASES OF RADIO SHACK EQUIPMENT BY THE ORIGINAL CUSTOMER FROM RADIO SHACK COMPANY-OWNED COMPUTER CENTERS, RETAIL STORES AND FROM RADIO SHACK FRANCHISEES AND DEALERS AT ITS AUTHORIZED LOCATION. The warranty is void if the Equipment's case or cabinet has been opened, or if the Equipment or Software has been subjected to improper or abnormal use. If a manufacturing defect is discovered during the stated warranty period, the defective Equipment must be returned to a Radio Shack Computer Center, a Radio Shack retail store, participating Radio Shack franchisee or Radio Shack dealer for repair, along with a copy of the sales document or lease agreement. The original CUSTOMER'S sole and exclusive remedy in the event of a defect is limited to the correction of the defect by repair, replacement, or refund of the purchase price, at RADIO SHACK'S election and sole expense. RADIO SHACK has no obligation to replace or repair expendable items.

B. RADIO SHACK makes no warranty as to the design, capability, capacity, or suitability for use of the Software, except as provided in this paragraph. Software is licensed on an "AS IS" basis, without warranty. The original CUSTOMER'S exclusive remedy, in the event of a Software manufacturing defect, is its repair or replacement within thirty (30) calendar days of the date of the Radio Shack sales document received upon license of the Software. The defective Software shall be returned to a Radio Shack Computer Center, a Radio Shack retail store, participating Radio Shack franchisee or Radio Shack dealer along with the sales document.

C. Except as provided herein no employee, agent, franchisee, dealer or other person is authorized to give any warranties of any nature on behalf of RADIO SHACK.

D. Except as provided herein, **RADIO SHACK MAKES NO WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

E. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation(s) may not apply to CUSTOMER.

III. LIMITATION OF LIABILITY

A. EXCEPT AS PROVIDED HEREIN, RADIO SHACK SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO CUSTOMER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS OR DAMAGE CAUSED OR ALLEGED TO BE CAUSED DIRECTLY OR INDIRECTLY BY "EQUIPMENT" OR "SOFTWARE" SOLD, LEASED, LICENSED OR FURNISHED BY RADIO SHACK, INCLUDING, BUT NOT LIMITED TO, ANY INTERRUPTION OF SERVICE, LOSS OF BUSINESS OR ANTICIPATORY PROFITS OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR OPERATION OF THE "EQUIPMENT" OR "SOFTWARE". IN NO EVENT SHALL RADIO SHACK BE LIABLE FOR LOSS OF PROFITS, OR ANY INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY BREACH OF THIS WARRANTY OR IN ANY MANNER ARISING OUT OF OR CONNECTED WITH THE SALE, LEASE, LICENSE, USE OR ANTICIPATED USE OF THE "EQUIPMENT" OR "SOFTWARE".

continued

NOTWITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, RADIO SHACK'S LIABILITY HEREUNDER FOR DAMAGES INCURRED BY CUSTOMER OR OTHERS SHALL NOT EXCEED THE AMOUNT PAID BY CUSTOMER FOR THE PARTICULAR "EQUIPMENT" OR "SOFTWARE" INVOLVED.

B. RADIO SHACK shall not be liable for any damages caused by delay in delivering or furnishing Equipment and/or Software.

C. No action arising out of any claimed breach of this Warranty or transactions under this Warranty may be brought more than two (2) years after the cause of action has accrued or more than four (4) years after the date of the Radio Shack sales document for the Equipment or Software, whichever first occurs.

D. Some states do not allow the limitation or exclusion of incidental or consequential damages, so the above limitation(s) or exclusion(s) may not apply to CUSTOMER.

IV. RADIO SHACK SOFTWARE LICENSE

RADIO SHACK grants to CUSTOMER a non-exclusive, paid-up license to use the RADIO SHACK Software on **one** computer, subject to the following provisions:

A. Except as otherwise provided in this Software License, applicable copyright laws shall apply to the Software.

B. Title to the medium on which the Software is recorded (cassette and/or diskette) or stored (ROM) is transferred to CUSTOMER, but not title to the Software.

C. CUSTOMER may use Software on one host computer and access that Software through one or more terminals if the Software permits this function.

D. CUSTOMER shall not use, make, manufacture, or reproduce copies of Software except for use on **one** computer and as is specifically provided in this Software License. Customer is expressly prohibited from disassembling the Software.

E. CUSTOMER is permitted to make additional copies of the Software **only** for backup or archival purposes or if additional copies are required in the operation of **one** computer with the Software, but only to the extent the Software allows a backup copy to be made. However, for TRSDOS Software, CUSTOMER is permitted to make a limited number of additional copies for CUSTOMER'S own use.

F. CUSTOMER may resell or distribute unmodified copies of the Software provided CUSTOMER has purchased one copy of the Software for each one sold or distributed. The provisions of this Software License shall also be applicable to third parties receiving copies of the Software from CUSTOMER.

G. All copyright notices shall be retained on all copies of the Software.

V. APPLICABILITY OF WARRANTY

A. The terms and conditions of this Warranty are applicable as between RADIO SHACK and CUSTOMER to either a sale of the Equipment and/or Software License to CUSTOMER or to a transaction whereby RADIO SHACK sells or conveys such Equipment to a third party for lease to CUSTOMER.

B. The limitations of liability and Warranty provisions herein shall inure to the benefit of RADIO SHACK, the author, owner and/or licensor of the Software and any manufacturer of the Equipment sold by RADIO SHACK.

VI. STATE LAW RIGHTS

The warranties granted herein give the **original** CUSTOMER specific legal rights, and the **original** CUSTOMER may have other rights which vary from state to state.

Bar Code Drivers

Radio Shack®
A DIVISION OF TANDY CORPORATION
FORT WORTH, TEXAS 76102

Bar Code Drivers Program:
©1984 Portable Computer Support Group, Inc.
Licensed to Tandy Corporation.
All Rights Reserved.

Bar Code BASIC Programs:
©1984 Tandy Corporation
All Rights Reserved.

Bar Code Drivers Manual:
©1984 Tandy Corporation
All Rights Reserved.

Reproduction or use, without express written permission from Tandy Corporation and/or its licensor, of any portion of this manual is prohibited. While reasonable efforts have been taken in the preparation of this manual to assure its accuracy, Tandy Corporation assumes no liability resulting from any errors or omissions in this manual, or from the use of the information contained herein.

10 9 8 7 6 5 4 3 2 1

TABLE OF CONTENTS

Introduction 1
Required Equipment 1
Loading the Decoder Programs 2
Using the Bar Code Decoder with BASIC 5

INTRODUCTION

The Bar Code Driver programs are designed to supplement the Bar Code Reader programs (Cat. No. 26-1183A or 700-2401). The programs contained on this cassette tape make it possible for you to read three additional bar code types and can be used with a BASIC program. The three new bar codes are, Interleaved 2 of 5 (I2OF5), Codabar (CDABR), and UPCEAN.

Note: Disk versions are I2OF5D, CDABRD, and UPCEAD.

This manual contains specific instructions for the driver programs on this cassette. Refer to your Bar Code Reader Owner's Manual for more detailed instructions for using the Bar Code Reader.

Required Equipment

- Model 100 Portable Computer
- AC Power Supply (Cat. No. 26-3804) or 4 AA batteries
- Cassette Recorder (CCR-81, Cat. No. 26-1208 is recommended)
- Bar Code Reader (Radio Shack Cat. No. 26-1183 or 26-1183A)
- Optional: Disk Video Interface (Cat. No. 26-3806)

Loading the Decoder Programs

When you turn on the power switch of your Model 100, after making the peripheral connections, the Main Menu is displayed on the screen. The cursor is positioned on the built-in application program, BASIC. Press (ENTER).

Rewind the tape; then press PLAY on the cassette recorder and set the volume control between 4 and 6.

Before the programs can be loaded into the computer's memory, space must be provided. To provide sufficient space, follow the instructions below that pertain to the program you want to load into the computer.

- For UPCEAN, type:
  CLEAR 110, 62765 (ENTER)
- For all other non-disk drivers, type:
  CLEAR 110, 61788 (ENTER)
- For UPCEAD, type:
  CLEAR 110, 56888 (ENTER)
- For all other disk versions type:
  CLEAR 110, 56920 (ENTER)

Now type **CLOADM "filename"** (where filename is the particular decoder program you want). Then press (ENTER). You may store all three decoder programs in your Model 100, or just the one you want to use. The three programs are stored on the tape in the following order: I2OF5 (Interleaved 2 of 5), CDABR (Codabar), and UPCEAN. There are two copies of each program on the tape.

While the computer is searching for the program on the tape, several messages appear on the screen to let you know the search status. A buzzing sound tells you that the specified program is being loaded into the Model 100 memory. When the program is loaded, the buzzing stops and the OK prompt appears.

The filename you choose determines the message shown. The chart shows the following messages (with variations, depending on which version you are using):

I2OF5, CDABR	UPCEAN	DISK VERSIONS	UPCEAD
Skip: I2OF5 Found: CDABR Top: 61788 End: 62703 (62585 for I2OF5) Exe: 62814 OK	61752 62765	56924	56888

The number labeled "Top" represents the place in the Model 100 memory where the specified machine language program begins. The "End" number is the ending address for the specified program. The last number (Exe) gives you the location at which that program begins execution.

After loading the decoder into memory from the cassette, you may save it in the directory by typing:

SAVEM ***"filename", Top address, End address, Exe address*** (ENTER) (all on one line)

TESTED (W/O WAND THO)
BUT
UPCEAN GAVE AN ERROR
WITH CLEAR 110, 62765
BUT WORKS WITH
CLEAR 110, 56888

Filename is the name of the decoder program (I2OF5, CDABR, or UPCEAN), and top, end, and execution address are the same numbers which appear on the screen when you load the program from tape. For the I2OF5 decoder, the command looks like this:

```
SAVEM "I2OF5",G1788,G2585,G1824
```

The decoder program is now stored in the Model 100 and may be accessed by a simple BASIC program for reading bar codes.

USING THE BAR CODE DECODER WITH BASIC

The following BASIC program illustrates how simple it is to enter data into the computer with the Bar Code Reader.

Example 1

```
10  CLEAR 100, (insert 'CLEAR' number for the bar
    code you want to use)
20  RUNM "filename"
30  OPEN "WAND:" FOR INPUT AS 1
40  INPUT #1, A$
50  PRINT A$
60  IF A$ <>""THEN 40
70  CLOSE:CALL 61807
RUN
```

Line 10 clears 100 characters of string storage to read the data, and also sets HIMEM, the TOP address BASIC uses when you are running the program. (See CLEAR in Chapter 16 of the Model 100 Owner's Manual.)

Line 20 loads the decoder program, "filename," into the correct RAM location where it can be accessed by the BASIC program. The filename is the name of the particular decoder as you stored it in RAM (I2OF5, CDABR, UPCEAN). (See RUNM in Chapter 16 of the Model 100 Owner's Manual.)

Line 30 opens a file for the WAND as an INPUT device with buffer file number 1. (See OPEN in Chapter 16 of the Model 100 Owner's Manual.)

Line 40 inputs the data as a character string called A$. This instruction waits to receive a string of characters from the decoder program when a successful scan of a bar code is completed. The LINE INPUT # command may also be used. (See INPUT # and LINE INPUT # in Chapter 16 of the Model 100 Owner's Manual.)

Lines 10 through 40 are common to all bar code BASIC programs. After executing line 40, you will have a string of characters from the bar code decoder (A$) which you may use in your program in any way you wish. Line 50 prints the data string on the display, and line 60 loops back to wait for another scan from the Bar Code Reader. If you press (ENTER), the Ok prompt appears.

Important Note: You must enter the following commands at the end of your BASIC program:

```
CLOSE
CALL 61807
```

(In all disk versions, the call number is 56943.)

You must precede the CALL to 61807 (or 56943 for disk versions) with the CLOSE command. These instructions reset some of the system parameters and prevent an error condition.

To exit a bar code program, press (ENTER) instead of scanning a line of bar code. This returns a "null string" from the decoder. Your BASIC program can then test for a null string and GOTO an exit routine.

The following is an example of a BASIC program that lets you first select which type of code you want to read; it then reads and displays the code as it is scanned with the wand. When you have finished reading or want to read a different type of code, press (ENTER). The program then prompts you for a decision as to whether or not you want to continue reading. Press (N) or (BREAK) to return to the menu. Press (Y) to return to the "WAND READY:" prompt. The (BREAK) key also causes a return to the menu.

Note: This program is stored on your cassette tape. Its filename is "RDBC2." This version (Example 2) is to be used without a Disk Video Interface.

Example 2

```
10  MAXFILES=1:CLEAR 100, &H1436:CLEAR
19  ' Set up the driver filenames for
    choice
20  F$(1)="I2OF5":F$(2)="CODABR"
    :F$(3)="UPCEAN"
30  CLS:PRINT:PRINT" 1. I 2 OF 5  2.
    Codabar  3. UPCEAN"
40  PRINT @240, "Please
    choose:";:A=INSTR("123",INPUT$(1)):
    IFA=0 THEN BEEP:GOTO 40 ELSE PRINTA;
50  RUNM F$(A)' run selected driver
60  ON ERROR GOTO 200' trap errors for
    orderly exit
70  CLS:OPEN "WAND:"FOR INPUT AS 1
79  'loop to here for more reads
80  PRINT"Wand ready: ";:INPUT #1,
    A$:PRINTA$
90  IF A$<>""THEN 80' get next read
    unless null input
100  'fall through to here if user
     pressed ENTER
110  CLS:PRINT"RESUME READING WAND?
     (Y/N) ";
119  ' Get response. Ask again if not y
     or n, else obey
120  Q$= INPUT$(1):PRINTQ$:ON INSTR
     (" YyNn",Q$)\2+1 GOTO 110,80,220
200  ' simple error trap and exit
210  PRINT:IF ERR=18THEN PRINT"BREAK
     pressed" ELSE PRINT"Error ";ERR;",
     Press any key..";INPUT (1)
220  CLOSE:CALL &H1807:MENU
```

This version of the program (Example 3) is to be used with a Disk Video Interface. Its filename is "RDBCD2."

Example 3

```
10  MAXFILES=1:CLEAR 100, 56572:CLEAR
19  ' Set up the driver filenames for
    choice
20  F$(1)="I2OF5D":F$(2)="CDABRD":F$(3)=
    "UPCEAD"
30  CLS:PRINT:PRINT" 1. I 2 OF 5  2.
    Codabar  3. UPCEAN":
40  PRINT@240,"Please choose:";
    :A=INSTR("123,INPUT$(1)):
    IF A=0 THEN BEEP:
    GOTO 40 ELSE PRINTA;
50  RUNM F$(A) ' run selected driver
60  ON ERROR GOTO 200 ' trap errors for
    orderly exit
70  CLS:OPEN "WAND:"FOR INPUT AS 1
79  'loop to here for more reads
80  PRINT"Wand ready: ";:INPUT #1,
    A$:PRINTA$
90  IF A$<>""THEN 80' get next read
    unless null input
100  'fall through to here if user press
     ENTER
110  CLS:PRINT"RESUME READING WAND?
     (Y/N) ";
119  'Get response. Ask again if not y
     or n, else obey
120  Q$=INPUT$(1):PRINTQ$:ON INSTR
     (" YyNn",Q$)\2+1 GOTO 110,80,220
200  ' simple error trap and exit
210  PRINT:IF ERR=18THEN PRINT"BREAK
     pressed" ELSE PRINT"Error ";ERR;",
     Press any key.,";INPUT$(1)
220  CLOSE:CALL 56943:MENU
```

In both of the above examples, lines 30 and 40 let you select the type of code you want to read.

The ON ERROR command in line 60 detects the (BREAK) key and, in this case, returns to the menu (line 220).

Cat. No. 26-3846

Printed in U.S.A.